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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,279	04/08/2002	Curtis E. Scott	33916	2460

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EXAMINER

BERCK, KENNETH A

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/063,279

Applicant(s)

SCOTT ET AL.

Examiner

Ken A Berck

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19, 20-22 and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Woodward et al. (US 5898265).

Woodward discloses (fig 1) a mercury vapor discharge fluorescent lamp (1) with a light-transmissive glass envelope (3) with an inner surface, a phosphor layer (17) adjacent to the inner surface, a discharge-sustaining fill gas of mercury vapor and inert gas sealed inside the envelope, and a mercury barrier (16) being effective to inhibit mercury atoms from absorbing into the glass envelope and amalgamating with sodium atoms therein, wherein the mercury barrier is substantially non-mercury absorptive (column 5, lines 9-67).

Regarding claim 2, Woodward discloses the glass envelope being made from soda-lime glass (column 4, lines 30-40).

Regarding claim 3, Woodward discloses the mercury barrier comprising Tin Oxide.

Regarding claim 4, Woodward discloses (fig 1) the barrier being a mercury-insulating section of the glass envelope, extending radially outward from the inner surface of the glass envelope.

Regarding claim 5, Woodward discloses the insulating section has a radial depth of at least 10 μm .

Regarding claim 6, Woodward discloses the insulating section has a radial depth of 25-100 μm .

Regarding claim 7, Woodward discloses (column 5, lines 9-43) the mercury-insulating section is a compressed section of densely packed species.

Regarding claim 8, Woodward discloses the insulating section is substantially transmissive to visible light.

Regarding claim 9, Woodward discloses (column 5, lines 40-43) the densely packed species is selected from the group consisting of potassium atoms and ions.

Regarding claim 10, Woodward discloses (column 5, lines 40-43) the densely packed species is selected from the group consisting of calcium atoms and ions.

Regarding claim 11, Woodward discloses the insulating section of the glass envelope is substantially electrically non-conductive.

Regarding claim 12, Woodward discloses (column 6, lines 1-10) the lamp exhibiting fewer than 30 degrees of discoloration at 2000 hours of cyclical operation.

Regarding claim 13, Woodward discloses (column 6, lines 1-10) the lamp exhibiting fewer than 30 degrees of discoloration at 3000 hours of cyclical operation.

Regarding claim 14, Woodward discloses (column 7) the lamp having a lumen efficiency of at least 54 lumens/watt at 2000 hours of cyclical operation.

Regarding claim 15, Woodward discloses (column 7) the lamp having a lumen efficiency of at least 54 lumens/watt at 3000 hours of cyclical operation.

Regarding claim 16, Woodward discloses having a lumen maintenance of at least 0.88 at 2000 hours of cyclical operation.

Regarding claim 17, Woodward discloses having a lumen maintenance of at least 0.88 at 3000 hours of cyclical operation.

Regarding claim 18, Woodward discloses the mercury barrier being a mercury barrier layer disposed adjacent to the phosphor layer.

Regarding claim 19, Woodward discloses (column 5, lines 40-43) the barrier layer being a potassium-containing layer.

Regarding claim 21, Woodward discloses the barrier being a tin oxide barrier layer disposed adjacent the inner surface.

Regarding claim 22, Woodward discloses (column 4, lines 45-57) the barrier layer being a compressed layer of densely packed non-activated and substantially electrically non-conductive.

Regarding claim 24, Woodward discloses (column 5, lines 40-43) the phosphor layer comprising a metal ion species therein as a mercury barrier.

Regarding claim 25, Woodward discloses (column 5, lines 40-43) the metal ion species is selected from the group consisting of potassium, calcium and mixtures thereof.

Regarding claim 26, Woodward discloses (column 5, lines 40-43) the metal ion species is a potassium salt selected from the group consisting of potassium chloride.

Regarding claim 27, Woodward discloses having a lumen maintenance of at least 0.6 at 2000 hours of cyclical operation.

Regarding claim 28, Woodward discloses having a lumen maintenance of at least 0.6 at 3000 hours of cyclical operation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Woodward et al. (US 5898265) in view of Seuter et al. (US 4544997).

Woodward discloses all of the above claim limitations but fail to clearly point out the thickness of the barrier.

Regarding claim 20, Seuter discloses (column 3, lines 45-67) the barrier layer being 10-100 nm thick in order to avoid excessively large absorption.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lamp of Woodward with the barrier layer being 10-100 nm thick in order to avoid excessively large absorption, as taught by Seuter.

Regarding claim 23, Seuter discloses (column 3, lines 45-67) the barrier layer being 10-100 nm thick in order to avoid excessively large absorption.


Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lamp of Woodward with the barrier layer being 5-200 nm thick in order to avoid excessively large absorption, as taught by Seuter.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken A Berck whose telephone number is (703)305-7984. The examiner can normally be reached on Mon-Fri 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

kab 
June 30, 2003


VIP PATEL
PRIMARY EXAMINER
ART UNIT 2879